

# SEQUENCE LISTING

<110> Biosensor ApS

<120> Biosensor

<130> Hydrophobic-CoA ester biosensor

<140>

<141>

<150> DK PA 2000 01683

<151> 2000-11-10

<150> US 60/262,366

<151> 2001-01-19

<160> 30

<170> PatentIn Ver. 2.1

<210> 1

<211> 86

<212> PRT

<213> Arabidopsis thaliana, membrane bound

<400> 1

Ser Ala Ala Thr Ala Phe Val Ala Ala Ala Ser Asp Arg Leu Ser  
1 5 10 15

Gln Lys Val Ser Asn Glu Leu Gln Leu Gln Leu Tyr Gly Leu Tyr Lys  
20 25 30

Ile Ala Thr Glu Gly Pro Cys Thr Ala Pro Gln Pro Ser Ala Leu Lys  
35 40 45

Met Thr Ala Arg Ala Lys Trp Gln Ala Trp Gln Lys Leu Gly Ala Met  
50 55 60

Pro Pro Glu Glu Ala Met Glu Lys Tyr Ile Asp Leu Val Thr Gln Leu  
65 70 75 80

Tyr Pro Ala Trp Val Glu  
85

<210> 2

<211> 86

<212> PRT

<213> Arabidopsis thaliana

<400> 2

Leu Lys Glu Glu Phe Glu Glu His Ala Glu Lys Val Asn Thr Leu Thr  
1 5 10 15

Glu Leu Pro Ser Asn Glu Asp Leu Leu Ile Leu Tyr Gly Leu Tyr Lys  
20 25 30

Gln Ala Lys Phe Gly Pro Val Asp Thr Ser Arg Pro Gly Met Phe Ser

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TOEFL-801/28560

45

Leu Glu Val Glu Ala Ser  
85

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<210> 3
<211> 86
<212> PRT
<213> Caenorhabditis elegans
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<400> 3  
Met Thr Leu Ser Phe Asp Asp Ala Ala Ala Thr Val Lys Thr Leu Lys  
1 5 10 15

Thr Ser Pro Ser Asn Asp Glu Leu Leu Lys Leu Tyr Ala Leu Phe Lys  
20 25 30

Gln Gly Thr Val Gly Asp Asn Thr Thr Asp Lys Pro Gly Met Phe Asp  
35 40 45

Leu Lys Gly Lys Ala Lys Trp Ser Ala Trp Asp Glu Lys Lys Gly Leu  
50 55 60

Ala Lys Asp Asp Ala Gln Lys Ala Tyr Val Ala Leu Val Glu Glu Leu  
65 70 75 80

Ile Ala Lys Tyr Gly Ala  
85

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<210> 4
<211> 85
<212> PRT
<213> Caenorhabditis elegans
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<400> 4  
Ala Gln Ala Asp Phe Glu Lys Ala Gln Lys Asn Leu Lys Thr Leu Lys  
1 5 10 15

Glu Glu Pro Asp Asn Asp Val Lys Leu Gln Leu Tyr Gly Leu Phe Lys  
20 25 30

Gln Ala Thr Ala Gly Asp Val Gln Gly Lys Arg Pro Gly Met Met Asp  
35 40 45

Phe Val Gly Arg Ala Lys Tyr Asp Ala Trp Asn Thr Leu Lys Gly Gln  
50 55 60

Thr Gln Asp Glu Ala Arg Ala Asn Tyr Ala Lys Leu Val Gly Gly Leu  
65 70 75 80

Ile Ser Glu Glu Ala

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<400> 6
Leu Asp Glu Gln Phe Glu Ala Ala Val Trp Ile Ile Asn Ala Leu Pro
  1                               5                10                15
Lys Asn Gly Pro Ile Lys Thr Ser Ile Asn Asp Gln Leu Gln Met Tyr
                20                25                30
Ser Leu Tyr Lys Gln Ala Thr Ser Gly Lys Cys Asp Thr Ile Gln Pro
          35                40                45
Tyr Phe Phe Gln Ile Glu Gln Arg Met Lys Trp Asn Ala Trp Asn Gln
      50                55                60
Leu Gly Asn Met Asp Glu Ala Glu Ala Lys Ala Gln Tyr Val Glu Lys
  65                70                75                80
Met Leu Lys Leu Cys Asn Gln Ala Glu Ala
          85                90

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<400> 7

Ser Val Glu Glu Phe Asn Ala Ala Lys Glu Lys Leu Gly Ala Leu Lys  
 1 5 10 15  
 Lys Asp Pro Gly Asn Glu Val Lys Leu Lys Val Tyr Ala Leu Phe Lys  
 20 25 30  
 Gln Ala Thr Gln Gly Pro Cys Asn Thr Pro Lys Pro Ser Met Leu Asp  
 35 40 45  
 Phe Val Asn Lys Ala Lys Trp Asp Ala Trp Lys Ser Leu Gly Ser Val  
 50 55 60  
 Ser Gln Glu Glu Ala Arg Gln Gln Tyr Val Asp Leu Ile Ser Ser Leu  
 65 70 75 80  
 Val Gly Thr Glu Ala  
 85

<210> 8  
 <211> 86  
 <212> PRT  
 <213> Castor bean

<400> 8  
 Leu Lys Glu Asp Phe Glu Glu His Ala Glu Lys Ala Lys Thr Leu Pro  
 1 5 10 15  
 Glu Asn Thr Thr Asn Glu Asn Lys Leu Ile Leu Tyr Gly Leu Tyr Lys  
 20 25 30  
 Gln Ala Thr Val Gly Pro Val Asn Thr Ser Arg Pro Gly Met Phe Asn  
 35 40 45  
 Met Arg Asp Arg Ala Lys Trp Asp Ala Trp Lys Ala Val Glu Gly Lys  
 50 55 60  
 Ser Thr Glu Glu Ala Met Ser Asp Tyr Ile Thr Lys Val Lys Gln Leu  
 65 70 75 80  
 Leu Gly Glu Ala Ala Ala  
 85

<210> 9  
 <211> 86  
 <212> PRT  
 <213> Ckicken

<400> 9  
 Ser Glu Ala Ala Phe Gln Lys Ala Ala Glu Glu Val Lys Glu Leu Lys  
 1 5 10 15  
 Ser Gln Pro Thr Asp Gln Glu Met Leu Asp Val Tyr Ser His Tyr Lys  
 20 25 30  
 Gln Ala Thr Val Gly Asp Val Asn Thr Asp Arg Pro Gly Met Leu Asp  
 35 40 45

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Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Ala Leu Lys Gly Met  
 50 55 60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Val Ala Lys Val Glu Glu Leu  
 65 70 75 80

Lys Gly Lys Tyr Gly Ile  
 85

<210> 10  
 <211> 86  
 <212> PRT  
 <213> Cotton

<400> 10  
 Leu Lys Glu Glu Phe Glu Glu His Ala Glu Lys Val Lys Thr Leu Pro  
 1 5 10 15

Ala Ala Pro Ser Asn Asp Asp Met Leu Ile Leu Tyr Gly Leu Tyr Lys  
 20 25 30

Gln Ala Thr Val Gly Pro Val Asn Thr Ser Arg Pro Gly Met Phe Asn  
 35 40 45

Met Arg Glu Lys Tyr Lys Trp Asp Ala Trp Lys Ala Val Glu Gly Lys  
 50 55 60

Ser Lys Glu Glu Ala Met Gly Asp Tyr Ile Thr Lys Val Lys Gln Leu  
 65 70 75 80

Phe Glu Ala Ala Gly Ser  
 85

<210> 11  
 <211> 89  
 <212> PRT  
 <213> Cow, membrane bound

<400> 11  
 His Glu Thr Arg Phe Glu Ala Ala Val Lys Val Ile Gln Ser Leu Pro  
 1 5 10 15

Lys Asn Gly Ser Phe Gln Pro Thr Asn Glu Met Met Leu Lys Phe Tyr  
 20 25 30

Ser Phe Tyr Lys Gln Ala Thr Glu Gly Pro Cys Lys Leu Ser Lys Pro  
 35 40 45

Gly Phe Trp Asp Pro Val Gly Arg Tyr Lys Trp Asp Ala Trp Ser Ser  
 50 55 60

Leu Gly Asp Met Thr Lys Glu Glu Ala Met Ile Ala Tyr Val Glu Glu  
 65 70 75 80

Met Lys Lys Ile Leu Glu Thr Met Pro  
 85

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 T00ETTF 80T23660

<210> 12  
 <211> 86  
 <212> PRT  
 <213> Cow, testis

<400> 12  
 Cys Gln Val Glu Phe Glu Met Ala Cys Ala Ala Ile Lys Gln Leu Lys  
 1 5 10 15  
 Gly Pro Val Ser Asp Gln Glu Lys Leu Leu Val Tyr Ser Tyr Tyr Lys  
 20 25 30  
 Gln Ala Thr Gln Gly Asp Cys Asn Ile Pro Ala Pro Pro Ala Thr Asp  
 35 40 45  
 Leu Lys Ala Lys Ala Lys Trp Glu Ala Trp Asn Val Glu Lys Gly Met  
 50 55 60  
 Ser Lys Met Asp Ala Met Arg Ile Tyr Ile Ala Lys Val Glu Glu Leu  
 65 70 75 80  
 Lys Lys Asn Glu Ala Gly  
 85

<210> 13  
 <211> 86  
 <212> PRT  
 <213> Dog

<400> 13  
 Ser Gln Ala Glu Phe Asp Lys Ala Ala Glu Asp Val Lys His Leu Lys  
 1 5 10 15  
 Thr Lys Pro Ala Asp Asp Glu Met Leu Tyr Ile Tyr Ser His Tyr Lys  
 20 25 30  
 Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Leu Leu Asp  
 35 40 45  
 Leu Arg Gly Lys Ala Lys Trp Asp Ala Trp Asn Gln Leu Lys Gly Thr  
 50 55 60  
 Ser Lys Glu Asp Ala Met Lys Ala Tyr Val Asn Lys Val Glu Asp Leu  
 65 70 75 80  
 Lys Lys Lys Tyr Gly Ile  
 85

<210> 14  
 <211> 86  
 <212> PRT  
 <213> Duck

<400> 14  
 Ala Glu Ala Ala Phe Gln Lys Ala Ala Glu Glu Val Lys Gln Leu Lys  
 1 5 10 15

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Ser Gln Pro Ser Asp Gln Glu Met Leu Asp Val Tyr Ser His Tyr Lys  
20 25 30

Gln Ala Thr Val Gly Asp Val Asn Thr Asp Arg Pro Gly Met Leu Asp  
35 40 45

Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Ala Leu Lys Gly Met  
50 55 60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Val Ala Lys Val Glu Glu Leu  
65 70 75 80

Lys Gly Lys Tyr Gly Ile  
85

<210> 15

<211> 86

<212> PRT

<213> Duck, brain

<400> 15

His Gln Ala Asp Phe Asp Glu Ala Ala Glu Glu Val Lys Lys Leu Lys  
1 5 10 15

Thr Arg Pro Thr Asp Glu Glu Leu Lys Glu Leu Tyr Gly Phe Tyr Lys  
20 25 30

Gln Ala Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu Asp  
35 40 45

Leu Lys Gly Lys Ala Lys Trp Glu Ala Trp Asn Leu Lys Lys Gly Ile  
50 55 60

Ser Lys Glu Asp Ala Met Asn Ala Tyr Ile Ser Lys Ala Lys Thr Met  
65 70 75 80

Val Glu Lys Tyr Gly Ile  
85

<210> 16

<211> 86

<212> PRT

<213> Frog, brain

<400> 16

Pro Gln Ala Asp Phe Asp Lys Ala Ala Gly Asp Val Lys Lys Leu Lys  
1 5 10 15

Thr Lys Pro Thr Asp Asp Glu Leu Lys Glu Leu Tyr Gly Leu Tyr Lys  
20 25 30

Gln Ser Thr Val Gly Asp Ile Asn Ile Glu Cys Pro Gly Met Leu Asp  
35 40 45

Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Leu Lys Lys Gly Leu  
50 55 60

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<211> 85  
 <212> PRT  
 <213> Lilly

<400> 19  
 Leu Lys Glu Glu Phe Glu Glu His Ala Val Lys Ala Lys Thr Leu Pro  
 1 5 10 15  
 Glu Ser Thr Ser Asn Glu Asn Lys Leu Ile Leu Tyr Gly Leu Tyr Lys  
 20 25 30  
 Gln Ser Thr Val Gly Pro Val Asp Thr Gly Arg Pro Gly Met Phe Ser  
 35 40 45  
 Pro Arg Glu Arg Ala Lys Trp Asp Ala Trp Lys Ala Val Glu Gly Lys  
 50 55 60  
 Ser Lys Glu Glu Ala Met Gly Asp Tyr Ile Thr Lys Val Lys Gln Leu  
 65 70 75 80  
 Leu Glu Glu Ser Ala  
 85

<210> 20  
 <211> 86  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Arg His Leu Lys  
 1 5 10 15  
 Thr Lys Pro Ser Asp Glu Glu Met Leu Phe Ile Tyr Gly His Tyr Lys  
 20 25 30  
 Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp  
 35 40 45  
 Phe Thr Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr  
 50 55 60  
 Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu Leu  
 65 70 75 80  
 Lys Lys Lys Tyr Gly Ile  
 85

<210> 21  
 <211> 86  
 <212> PRT  
 <213> Mouse, testis

<400> 21  
 Ser Gln Val Glu Phe Glu Met Ala Cys Ala Ser Leu Lys Gln Leu Lys  
 1 5 10 15  
 Gly Pro Val Ser Asp Gln Glu Lys Leu Leu Val Tyr Ser Phe Tyr Lys

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20 25 30  
Gln Ala Thr Gln Gly Asp Cys Asn Ile Pro Val Pro Pro Ala Thr Asp  
35 40 45  
Val Arg Ala Lys Ala Lys Tyr Glu Ala Trp Met Val Asn Lys Gly Met  
50 55 60  
Ser Lys Met Asp Ala Met Arg Ile Tyr Ile Ala Lys Val Glu Glu Leu  
65 70 75 80  
Lys Lys Lys Glu Pro Cys  
85

<210> 22  
<211> 86  
<212> PRT  
<213> Mouse

<400> 22  
Ser Gln Ala Glu Phe Asp Lys Ala Ala Glu Glu Val Lys Arg Leu Lys  
1 5 10 15  
Thr Gln Pro Thr Asp Glu Glu Met Leu Phe Ile Tyr Ser His Phe Lys  
20 25 30  
Gln Ala Thr Val Gly Asp Val Asn Thr Asp Arg Pro Gly Leu Leu Asp  
35 40 45  
Leu Lys Gly Lys Ala Lys Trp Asp Ser Trp Asn Lys Leu Lys Gly Thr  
50 55 60  
Ser Lys Glu Ser Ala Met Lys Thr Tyr Val Glu Lys Val Asp Glu Leu  
65 70 75 80  
Lys Lys Lys Tyr Gly Ile  
85

<210> 23  
<211> 86  
<212> PRT  
<213> Pig

<400> 23  
Ser Gln Ala Glu Phe Glu Lys Ala Ala Glu Glu Val Lys Asn Leu Lys  
1 5 10 15  
Thr Lys Pro Ala Asp Asp Glu Met Leu Phe Ile Tyr Ser His Tyr Lys  
20 25 30  
Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Ile Leu Asp  
35 40 45  
Leu Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Gly Leu Lys Gly Thr  
50 55 60  
Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asn Lys Val Glu Glu Leu

65

70

75

80

Lys Lys Lys Tyr Gly Ile  
85

&lt;210&gt; 24

&lt;211&gt; 86

&lt;212&gt; PRT

&lt;213&gt; Brassica napus

&lt;400&gt; 24

Leu Lys Glu Asp Phe Glu Glu His Ala Glu Lys Val Lys Lys Leu Thr  
1 5 10 15

Ala Ser Pro Ser Asn Glu Asp Leu Leu Ile Leu Tyr Gly Leu Tyr Lys  
20 25 30

Gln Ala Thr Val Gly Pro Val Thr Thr Ser Arg Pro Gly Met Phe Ser  
35 40 45

Met Lys Glu Arg Ala Lys Trp Asp Ala Trp Lys Ala Val Glu Gly Lys  
50 55 60

Ser Thr Asp Glu Ala Met Ser Asp Tyr Ile Thr Lys Val Lys Gln Leu  
65 70 75 80

Leu Glu Ala Glu Ala Ser  
85

&lt;210&gt; 25

&lt;211&gt; 86

&lt;212&gt; PRT

&lt;213&gt; Rat, testis

&lt;400&gt; 25

Ser Gln Val Glu Phe Glu Met Ala Cys Ala Ser Leu Lys Gln Leu Lys  
1 5 10 15

Gly Pro Leu Ser Asp Gln Glu Lys Met Leu Val Tyr Ser Phe Tyr Lys  
20 25 30

Gln Ala Thr Gln Gly Asp Cys Asn Ile Pro Val Pro Pro Ala Thr Asp  
35 40 45

Val Lys Ala Lys Ala Lys Trp Glu Ala Trp Met Val Asn Lys Gly Met  
50 55 60

Ser Lys Met Asp Ala Met Arg Ile Tyr Ile Ala Lys Val Glu Glu Leu  
65 70 75 80

Lys Lys Asn Glu Thr Cys  
85

&lt;210&gt; 26

&lt;211&gt; 86

&lt;212&gt; PRT

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<213> Rat

<400> 26

Ser Gln Ala Asp Phe Asp Lys Ala Ala Glu Glu Val Lys Arg Leu Lys  
1 5 10 15

Thr Gln Pro Thr Asp Glu Glu Met Leu Phe Ile Tyr Ser His Phe Lys  
20 25 30

Gln Ala Thr Val Gly Asp Val Asn Thr Asp Arg Pro Gly Leu Leu Asp  
35 40 45

Leu Lys Gly Lys Ala Lys Trp Asp Ser Trp Asn Lys Leu Lys Gly Thr  
50 55 60

Ser Lys Glu Asn Ala Met Lys Thr Tyr Val Glu Lys Val Glu Glu Leu  
65 70 75 80

Lys Lys Lys Tyr Gly Ile  
85

<210> 27

<211> 86

<212> PRT

<213> Turtle

<400> 27

Ser Gln Ala Glu Phe Asp Lys Ala Ala Glu Glu Val Lys Gln Leu Lys  
1 5 10 15

Ser Gln Pro Thr Asp Glu Glu Met Leu Tyr Ile Tyr Ser His Phe Lys  
20 25 30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Phe Leu Asp  
35 40 45

Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp Asp Ala Leu Lys Gly Met  
50 55 60

Ala Lys Glu Glu Ala Met Lys Ala Tyr Ile Ala Lys Val Glu Glu Leu  
65 70 75 80

Lys Gly Lys Tyr Gly Ile  
85

<210> 28

<211> 86

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 28

Val Ser Gln Leu Phe Glu Glu Lys Ala Lys Ala Val Asn Glu Leu Pro  
1 5 10 15

Thr Lys Pro Ser Thr Asp Glu Leu Leu Glu Leu Tyr Ala Leu Tyr Lys  
20 25 30

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Gln Ala Thr Val Gly Asp Asn Asp Lys Glu Lys Pro Gly Ile Phe Asn  
35 40 45

Met Lys Asp Arg Tyr Lys Trp Glu Ala Trp Glu Asn Leu Lys Gly Lys  
50 55 60

Ser Gln Glu Asp Ala Glu Lys Glu Tyr Ile Ala Leu Val Asp Gln Leu  
65 70 75 80

Ile Ala Lys Tyr Ser Ser  
85

<210> 29

<211> 86

<212> PRT

<213> Saccharomyces monoasensis

<400> 29

Val Ser Gln Leu Phe Glu Glu Lys Ala Lys Ala Val Asn Glu Leu Pro  
1 5 10 15

Thr Lys Pro Ser Thr Asp Glu Leu Leu Glu Leu Tyr Gly Leu Tyr Lys  
20 25 30

Gln Ala Thr Val Gly Asp Asn Asp Lys Glu Lys Pro Gly Ile Phe Asn  
35 40 45

Met Lys Asp Arg Tyr Lys Trp Glu Ala Trp Glu Asp Leu Lys Gly Lys  
50 55 60

Ser Gln Glu Asp Ala Glu Lys Glu Tyr Ile Ala Tyr Val Asp Asn Leu  
65 70 75 80

Ile Ala Lys Tyr Ser Ser  
85

<210> 30

<211> 86

<212> PRT

<213> Cow liver

<400> 30

Ser Gln Ala Glu Phe Asp Lys Ala Ala Glu Glu Val Lys His Leu Lys  
1 5 10 15

Thr Lys Pro Ala Asp Glu Glu Met Leu Phe Ile Tyr Ser His Tyr Lys  
20 25 30

Gln Ala Thr Val Gly Asp Ile Asn Thr Glu Arg Pro Gly Met Leu Asp  
35 40 45

Phe Lys Gly Lys Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Thr  
50 55 60

Ser Lys Glu Asp Ala Met Lys Ala Tyr Ile Asp Lys Val Glu Glu Leu  
65 70 75 80

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TDETTT# 90729660

Lys Lys Lys Tyr Gly Ile  
85

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